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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/607,324	06/30/2000	Noritoshi Nakagawa	2927-113P	8419

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EXAMINER

ALLEN, ANDRE J

ART UNIT

PAPER NUMBER

2855

DATE MAILED: 01/29/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Guzner

**Office Action Summary**

Application No.

09/607,324

Applicant(s)

NAKAGAWA ET AL.

Examiner

Andre J. Allen

Art Unit

2855

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 12 November 2002.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-24 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-24 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

DETAILED ACTION

1. Acknowledgment is made of the amendment filed 11-12-02.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-11 and 14-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Document 1 in view of document 2. Document 1 teaches a viscoelastic characteristic value-measuring apparatus and method comprising:

In claims 1,5,6,8,9,10,15,16,18 and 20 an input bar B [fig. 7.1] (claim 1), an output bar C (claim 1), a striker bar/impact bar A (claim 1), said bars are circular (claim 8) being arranged in a straight line to withhold a specimen S, a first and second strain gauge G<sub>b</sub> G<sub>c</sub> located on the input bar and output bar and a third strain strain gauge G<sub>3</sub> (claim 1) (claim 5 6) used to measure a transmitted wave p. 174 and 178, a method of striking the input bar (claim 15 16) with a specimen held therein p. 173 (claim 9) to generate an incident wave and reflected wave (claim 9 18) p 174, a method of measuring and determining a strain wave, estimating a history, and computing

characteristics using Young's Modulus p. 176 (claim 9 10 20), However document 1 does not A length to be set so that the reflected strain wave is damped and a re-reflected strain wave is not generated, said bars to be made from a polymer, said bars having a viscoelastic characteristic which is different from the specimens, a fourth strain gauge, a 4% 25% 8% and 50% spacing of said strain gauges, intervals of 200mm to 1200mm and 30mm to 400mm, bars having a sectional are of 10mm to 30mm, use of a low pass filter and the length of the specimen to be 1mm to 15mm.

Document 2 teaches impact compression characteristics of viscoelastic materials comprising ;

In claims 3,4,7,8,14,23,24an input bar and output bar made of a polymer [introduction] (claim 3), said stress bars having a diameter of 20.5mm (claim 8) and a length of 1000mm (claim 1) a specimen made of hard rubber, soft rubber and polyester resin (claim 4), strain gauges 1 to 4 sec. 3.2 set at distances of 300mm and 100mm p. 26 (claim 7), length of the specimen set at 8mm p. 26 (claim 14), a maximum strain speed of 500-8000 per/sec, impact speeds of 1m/s-70m/s and a strain deformation range from 1%-30%.

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to modify the Hopkinson Bar Method taught in Document 1 with a fourth strain gauge, bars made of a polymer, specific spacing of the strain gauges and said bars and a specific range of size of the specimen as taught by Impact compression characteristics taught in

Document 2 for the purpose of optimum measuring characteristics of a viscoelastic material.

In claims 1 and 2, with respect to a length to be set so that the reflected strain wave is damped and a re-reflected strain wave is not generated and length of output bar to be less than the input bar, the cited references clearly disclose some length, the physical structure and material reads on the applicants structure as claimed and it would be highly suggestive for one in the ordinary skill of the art through experimentation to change a dimensional characteristic to derive a distinct effect on the apparatus since polymers are generally used to give a damped effect, therefore it would have been an obvious matter of design choice to change the dimension of the bars, since such a modification would have involved a mere change in size of a component. A change in size is generally recognized as being within the level of ordinary skill in the art. In re Rose, 105 USPQ 237 (ccpa 1955)

In claims 17,19,22 With respect to a maximum strain speed of 500-8000 per/sec, impact speeds of 1m/s-70m/s and a strain deformation range from 1%-30%, it would have been obvious to one having the ordinary skill in the art at the time the invention was made to provide these ranges for impact speeds, deformation ranges and maximum strain speeds, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in

the art. In this case the cited prior art clearly discloses that there is some type of maximum strain speed, a deformation and an impact speed.

With respect to the spacing of the strain gauges at 4%,25%,8% and 50% it would have been obvious to one having ordinary skill in the art at the time the invention was made to design the strain gauges at some type of percentage of spacing since it has been held that mere duplication of the essential working parts involves only routine skill in the art. *St. Regis Paper co. v. Bemis co.*, 193 USPQ 8

In claim 11,with respect to a low-pass filter, it would have been obvious to one having ordinary skill in the art at the time the invention was made to use a low-pass filter to filter a high frequency noise since it was known in the art that use of a low-pass filter to reduce unwanted noise is common as taught in US patent 6236939

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to modify the Hopkinson Bar Method taught in Document 1 with a fourth strain gauge, bars made of a polymer, specific spacing of the strain gauges and said bars and a specific range of size of the specimen as taught by Impact compression characteristics taught in Document 2 for the purpose of optimum measuring characteristics of a viscoelastic material.

***Allowable Subject Matter***

Claims 12 and 13 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter: The cited prior art does not disclose an apparatus that measures visco-elastic characteristics comprising the steps of performing a zero correction of making a baseline value of a history of a strain wave and deriving a relaxation time using a tangent at a predetermined point of an initial stage of a computed stress history.

***Response to Arguments***

In response to the applicants argument that either reference discloses a input bar having a length in the range of 1500mm-2500mm and an output bar having a length in the range of 500mm-2500mm it is experimental choice where one is seeking optimization of the dimensional characteristics of an element. Therefore the applicants argument is considered moot.

### **Conclusion**

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Andre J. Allen whose telephone number is 703-3081989. The examiner can normally be reached on mon-fri 8:00-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hezron Williams can be reached on 703-305-4705. The fax phone numbers for the organization where this application or proceeding is assigned are 703-308-3432 for regular communications and 703-308-3432 for After Final communications.



Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0956.

A.J.A  
January 21, 2003

  
HEZRON WILLIAMS  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 2800